

Sequence Listing

<110> Baker, Kevin
 Botstein, David
 Eaton, Dan
 Ferrara, Napoleone
 Filvaroff, Ellen
 Gerritsen, Mary
 Goddard, Audrey
 Godowski, Paul
 Grimaldi, Christopher
 Gurney, Austin
 Hillan, Kenneth
 Kljavin, Ivar
 Napier, Mary
 Roy, Margaret
 Tumas, Daniel
 Wood, William

<120> SECRETED AND TRANSMEMBRANE POLYPEPTIDES AND NUCLEIC
 ACIDS ENCODING THE SAME

<130> P2548P1C1

<150> 60/067,411

<151> December 3, 1997

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<150> 60/068,017

<151> December 18, 1997

<150> 60/070,440

TOEBO "DECEMBER 1997"

[illegible]

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 gtagtacatg gtggataact tctactttta ggaggactac tctcttctga 200
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35 40 45
Asp Asp Asp Asp Asp Glu Asp Asn Ser Leu Phe Pro Thr Arg Glu
50 55 60
Pro Arg Ser His Phe Phe Pro Phe Asp Leu Phe Pro Met Cys Pro
65 70 75
Phe Gly Cys Gln Cys Tyr Ser Arg Val Val His Cys Ser Asp Leu
80 85 90
Gly Leu Thr Ser Val Pro Thr Asn Ile Pro Phe Asp Thr Arg Met
95 100 105
Leu Asp Leu Gln Asn Asn Lys Ile Lys Glu Ile Lys Glu Asn Asp
110 115 120
Phe Lys Gly Leu Thr Ser Leu Tyr Gly Leu Ile Leu Asn Asn Asn
125 130 135
Lys Leu Thr Lys Ile His Pro Lys Ala Phe Leu Thr Thr Lys Lys
140 145 150
Leu Arg Arg Leu Tyr Leu Ser His Asn Gln Leu Ser Glu Ile Pro
155 160 165
Leu Asn Leu Pro Lys Ser Leu Ala Glu Leu Arg Ile His Glu Asn
170 175 180
Lys Val Lys Lys Ile Gln Lys Asp Thr Phe Lys Gly Met Asn Ala
185 190 195
Leu His Val Leu Glu Met Ser Ala Asn Pro Leu Asp Asn Asn Gly
200 205 210

Ile Glu Pro Gly	Ala Phe Glu Gly Val	Thr Val Phe His Ile Arg
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Ile Ala Glu Ala	Lys Leu Thr Ser Val	Pro Lys Gly Leu Pro Pro
230	235	240
Thr Leu Leu Glu	Leu His Leu Asp Tyr	Asn Lys Ile Ser Thr Val
245	250	255
Glu Leu Glu Asp	Phe Lys Arg Tyr Lys	Glu Leu Gln Arg Leu Gly
260	265	270
Leu Gly Asn Asn	Lys Ile Thr Asp Ile	Glu Asn Gly Ser Leu Ala
275	280	285
Asn Ile Pro Arg	Val Arg Glu Ile His	Leu Glu Asn Asn Lys Leu
290	295	300
Lys Lys Ile Pro	Ser Gly Leu Pro Glu	Leu Lys Tyr Leu Gln Ile
305	310	315
Ile Phe Leu His	Ser Asn Ser Ile Ala	Arg Val Gly Val Asn Asp
320	325	330
Phe Cys Pro Thr	Val Pro Lys Met Lys	Lys Ser Leu Tyr Ser Ala
335	340	345
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 <223> Synthetic Oligonucleotide Probe

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<400> 4
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<212> DNA
<213> Homo Sapien

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<211> 954

<213> Home

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35 40 45

Arg Gly Ala Ala Gly Cys Thr Phe Gly Gly Lys Val Tyr Ala Leu
50 55 60

Asp Glu Thr Trp His Pro Asp Leu Gly Gln Pro Phe Gly Val Met
65 70 75

Arg	Cys	Val	Leu	Cys	Ala	Cys	Glu	Ala	Pro	Gln	Trp	Gly	Arg	Arg
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Thr	Arg	Gly	Pro	Gly	Arg	Val	Ser	Cys	Lys	Asn	Ile	Lys	Pro	Glu
				95					100					105
Cys	Pro	Thr	Pro	Ala	Cys	Gly	Gln	Pro	Arg	Gln	Leu	Pro	Gly	His
				110					115					120
Cys	Cys	Gln	Thr	Cys	Pro	Gln	Glu	Arg	Ser	Ser	Ser	Glu	Arg	Gln
				125					130					135
Pro	Ser	Gly	Leu	Ser	Phe	Glu	Tyr	Pro	Arg	Asp	Pro	Glu	His	Arg
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Ser	Tyr	Ser	Asp	Arg	Gly	Glu	Pro	Gly	Ala	Glu	Glu	Arg	Ala	Arg
				155					160					165
Gly	Asp	Gly	His	Thr	Asp	Phe	Val	Ala	Leu	Leu	Thr	Gly	Pro	Arg
				170					175					180
Ser	Gln	Ala	Val	Ala	Arg	Ala	Arg	Val	Ser	Leu	Leu	Arg	Ser	Ser
				185					190					195
Leu	Arg	Phe	Ser	Ile	Ser	Tyr	Arg	Arg	Leu	Asp	Arg	Pro	Thr	Arg
				200					205					210
Ile	Arg	Phe	Ser	Asp	Ser	Asn	Gly	Ser	Val	Leu	Phe	Glu	His	Pro
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				230					235					240
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				260					265					270
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Leu	Leu	Phe	Arg	Gly	Leu	Leu	Glu	Pro	Arg	Ser	Gly	Gly	Leu	Thr
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Gln	Val	Pro	Leu	Arg	Leu	Gln	Ile	Leu	His	Gln	Gly	Gln	Leu	Leu
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Arg	Glu	Leu	Gln	Ala	Asn	Val	Ser	Ala	Gln	Glu	Pro	Gly	Phe	Ala
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Glu	Val	Leu	Pro	Asn	Leu	Thr	Val	Gln	Glu	Met	Asp	Trp	Leu	Val

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				380					385					390	
Leu	Arg	Ile	Ser	Gly	His	Ile	Ala	Ala	Arg	Lys	Ser	Cys	Asp	Val	
				395					400					405	
Leu	Gln	Ser	Val	Leu	Cys	Gly	Ala	Asp	Ala	Leu	Ile	Pro	Val	Gln	
				410					415					420	
Thr	Gly	Ala	Ala	Gly	Ser	Ala	Ser	Leu	Thr	Leu	Leu	Gly	Asn	Gly	
				425					430					435	
Ser	Leu	Ile	Tyr	Gln	Val	Gln	Val	Val	Gly	Thr	Ser	Ser	Glu	Val	
				440					445					450	
Val	Ala	Met	Thr	Leu	Glu	Thr	Lys	Pro	Gln	Arg	Arg	Asp	Gln	Arg	
				455					460					465	
Thr	Val	Leu	Cys	His	Met	Ala	Gly	Leu	Gln	Pro	Gly	Gly	His	Thr	
				470					475					480	
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				485					490					495	
Leu	Leu	Gln	Asn	Glu	Leu	Phe	Leu	Asn	Val	Gly	Thr	Lys	Asp	Phe	
				500					505					510	
Pro	Asp	Gly	Glu	Leu	Arg	Gly	His	Val	Ala	Ala	Leu	Pro	Tyr	Cys	
				515					520					525	
Gly	His	Ser	Ala	Arg	His	Asp	Thr	Leu	Pro	Val	Pro	Leu	Ala	Gly	
				530					535					540	
Ala	Leu	Val	Leu	Pro	Pro	Val	Lys	Ser	Gln	Ala	Ala	Gly	His	Ala	
				545					550					555	
Trp	Leu	Ser	Leu	Asp	Thr	His	Cys	His	Leu	His	Tyr	Glu	Val	Leu	
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Leu	Ala	Gly	Leu	Gly	Gly	Ser	Glu	Gln	Gly	Thr	Val	Thr	Ala	His	
				575					580					585	
Leu	Leu	Gly	Pro	Pro	Gly	Thr	Pro	Gly	Pro	Arg	Arg	Leu	Leu	Lys	
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Pro	Glu	Leu	Leu	Arg	His	Leu	Ala	Lys	Gly	Met	Ala	Ser	Leu	Met	
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Ile	Thr	Thr	Lys	Gly	Ser	Pro	Arg	Gly	Glu	Leu	Arg	Gly	Gln	Val	
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His	Ile	Ala	Asn	Gln	Cys	Glu	Val	Gly	Gly	Leu	Arg	Leu	Glu	Ala	
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00943801 0033001

Ala Gly Ala Glu Gly Val Arg Ala Leu Gly Ala Pro Asp Thr Ala	665	670	675
Ser Ala Ala Pro Pro Val Val Pro Gly Leu Pro Ala Leu Ala Pro	680	685	690
Ala Lys Pro Gly Gly Pro Gly Arg Pro Arg Asp Pro Asn Thr Cys	695	700	705
Phe Phe Glu Gly Gln Gln Arg Pro His Gly Ala Arg Trp Ala Pro	710	715	720
Asn Tyr Asp Pro Leu Cys Ser Leu Cys Thr Cys Gln Arg Arg Thr	725	730	735
Val Ile Cys Asp Pro Val Val Cys Pro Pro Pro Ser Cys Pro His	740	745	750
Pro Val Gln Ala Pro Asp Gln Cys Cys Pro Val Cys Pro Glu Lys	755	760	765
Gln Asp Val Arg Asp Leu Pro Gly Leu Pro Arg Ser Arg Asp Pro	770	775	780
Gly Glu Gly Cys Tyr Phe Asp Gly Asp Arg Ser Trp Arg Ala Ala	785	790	795
Gly Thr Arg Trp His Pro Val Val Pro Pro Phe Gly Leu Ile Lys	800	805	810
Cys Ala Val Cys Thr Cys Lys Gly Gly Thr Gly Glu Val His Cys	815	820	825
Glu Lys Val Gln Cys Pro Arg Leu Ala Cys Ala Gln Pro Val Arg	830	835	840
Val Asn Pro Thr Asp Cys Cys Lys Gln Cys Pro Val Gly Ser Gly	845	850	855
Ala His Pro Gln Leu Gly Asp Pro Met Gln Ala Asp Gly Pro Arg	860	865	870
Gly Cys Arg Phe Ala Gly Gln Trp Phe Pro Glu Ser Gln Ser Trp	875	880	885
His Pro Ser Val Pro Pro Phe Gly Glu Met Ser Cys Ile Thr Cys	890	895	900
Arg Cys Gly Ala Gly Val Pro His Cys Glu Arg Asp Asp Cys Ser	905	910	915
Leu Pro Leu Ser Cys Gly Ser Gly Lys Glu Ser Arg Cys Cys Ser	920	925	930
Arg Cys Thr Ala His Arg Arg Pro Pro Glu Thr Arg Thr Asp Pro	935	940	945
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 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Synthetic Oligonucleotide probe

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 <211> 28
 <212> DNA
 <213> Artificial Sequence

 <220>
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 <210> 10
 <211> 36
 <212> DNA
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 <220>
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 <400> 10
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 <210> 11
 <211> 36
 <212> DNA
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 <400> 11
 ggcgcacagc acgcagcgca tcaccccgaa tggctc 36

 <210> 12
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 <400> 12
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<211> 22
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<400> 13
gcagggtgct caaacaggac ac 22

<210> 14
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<212> DNA
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gtatt	gat	gc	aa	t	g	aaa	ag	ca	gat	g	gga	g	ca	at	t	cac	1250
ctt	c	t	g	gtt	at	a	c	t	g	g	a	g	a	g	a	t	1300
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<212> PRT
<213> Homo Sapien

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35 40 45
Gly Pro Cys Ala Ala Gln Pro Cys Arg Asn Gly Gly Val Cys Thr
50 55 60
Ser Arg Pro Glu Pro Asp Pro Gln His Pro Ala Pro Ala Gly Glu
65 70 75
Pro Gly Tyr Ser Cys Thr Cys Pro Ala Gly Ile Ser Gly Ala Asn
80 85 90
Cys Gln Leu Val Ala Asp Pro Cys Ala Ser Asn Pro Cys His His
95 100 105
Gly Asn Cys Ser Ser Ser Ser Ser Ser Ser Ser Asp Gly Tyr Leu

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Arg	Gln	Leu	Gln	Pro	Val	Pro	Ala	Thr	Gln	Glu	Pro	Asp	Lys	Ile					
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Leu	Pro	Arg	Ser	Gln	Ala	Thr	Val	Thr	Leu	Pro	Thr	Trp	Gln	Pro					
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Lys	Thr	Gly	Gln	Lys	Val	Val	Glu	Met	Lys	Trp	Asp	Gln	Val	Glu					
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Val	Ile	Pro	Asp	Ile	Ala	Cys	Gly	Asn	Ala	Ser	Ser	Asn	Ser	Ser					
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Ala	Gly	Gly	Arg	Leu	Val	Ser	Phe	Glu	Val	Pro	Gln	Asn	Thr	Ser					
				215					220					225					
Val	Lys	Ile	Arg	Gln	Asp	Ala	Thr	Ala	Ser	Leu	Ile	Leu	Leu	Trp					
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Lys	Val	Thr	Ala	Thr	Gly	Phe	Gln	Gln	Cys	Ser	Leu	Ile	Asp	Gly					
				245					250					255					
Arg	Ser	Val	Thr	Pro	Leu	Gln	Ala	Ser	Gly	Gly	Leu	Val	Leu	Leu					
				260					265					270					
Glu	Glu	Met	Leu	Ala	Leu	Gly	Asn	Asn	His	Phe	Ile	Gly	Phe	Val					
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Asn	Asp	Ser	Val	Thr	Lys	Ser	Ile	Val	Ala	Leu	Arg	Leu	Thr	Leu					
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Val	Val	Lys	Val	Ser	Thr	Cys	Val	Pro	Gly	Glu	Ser	His	Ala	Asn					
				305					310					315					
Asp	Leu	Glu	Cys	Ser	Gly	Lys	Gly	Lys	Cys	Thr	Thr	Lys	Pro	Ser					
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Glu	Ala	Thr	Phe	Ser	Cys	Thr	Cys	Glu	Glu	Gln	Tyr	Val	Gly	Thr					
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Phe	Cys	Glu	Glu	Tyr	Asp	Ala	Cys	Gln	Arg	Lys	Pro	Cys	Gln	Asn					
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Phe	Thr	Cys	Val	Cys	Leu	Pro	Gly	Tyr	Thr	Gly	Glu	Leu	Cys	Gln					
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Ser	Lys	Ile	Asp	Tyr	Cys	Ile	Leu	Asp	Pro	Cys	Arg	Asn	Gly	Ala					
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Ser	Ser	Pro	Cys	440	Gln	Asn	Asn	Gly	Thr	Cys	Tyr	Val	Asp	Gly	Val	450
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Gly	Tyr	His	Gly	500	Leu	Tyr	Cys	Glu	Glu	Glu	Tyr	Asn	Glu	Cys	Leu	510
Ser	Ala	Pro	Cys	515	Leu	Asn	Ala	Ala	Thr	Cys	Arg	Asp	Leu	Val	Asn	525
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Glu	Leu	Tyr	Lys	545	Asp	Pro	Cys	Ala	Asn	Val	Ser	Cys	Leu	Asn	Gly	555
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Pro	Gly	Phe	Thr	575	Gly	Glu	Glu	Cys	Asp	Ile	Asp	Ile	Asn	Glu	Cys	585
Asp	Ser	Asn	Pro	590	Cys	His	His	Gly	Gly	Ser	Cys	Leu	Asp	Gln	Pro	600
Asn	Gly	Tyr	Asn	605	Cys	His	Cys	Pro	His	Gly	Trp	Val	Gly	Ala	Asn	615
Cys	Glu	Ile	His	620	Leu	Gln	Trp	Lys	Ser	Gly	His	Met	Ala	Glu	Ser	630
Leu	Thr	Asn	Met	635	Pro	Arg	His	Ser	Leu	Tyr	Ile	Ile	Ile	Gly	Ala	645
Leu	Cys	Val	Ala	650	Phe	Ile	Leu	Met	Leu	Ile	Ile	Leu	Ile	Val	Gly	660
Ile	Cys	Arg	Ile	665	Ser	Arg	Ile	Glu	Tyr	Gln	Gly	Ser	Ser	Arg	Pro	675
Ala	Tyr	Glu	Glu	680	Phe	Tyr	Asn	Cys	Arg	Ser	Ile	Asp	Ser	Glu	Phe	690
Ser	Asn	Ala	Ile	695	Ala	Ser	Ile	Arg	His	Ala	Arg	Phe	Gly	Lys	Lys	700

695

700

705

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Tyr Ser Pro Asp Asp Lys Pro Leu Val Thr Leu Ile Lys Thr Lys
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Asp Leu

<210> 16

<211> 43

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Oligonucleotide Probe

<400> 16

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<210> 17

<211> 41

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Oligonucleotide Probe

<400> 17

caggaaacag ctatgaccac ctgcacacct gcaaattccat t 41

<210> 18

<211> 508

<212> DNA

<213> Homo Sapien

<400> 18

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tctgtgacta agtctattgt ggctttgcgc ttaactctgg tggatgaagg 200

cagcacctgt gtgccggggg agagtcacgc aaatgacttg gagggttcag 250

gaaaaggaaa atgcaccacg aagccgtcag aggcaacttt ttctgtacc 300

tgtgaggagc agtacgtggg tactttctgt gaagaatagc atgcttgcca 350

gaggaaacct tgccaaaaca acgcgagctg tattgatgca aatgaaaagc 400

aagatgggag caatttcacc tgtgtttgcc ttctgggtta tactggagag 450

ctttgccaac cgaactgaga ttggagcgaa cgacctacac cgaactgaga 500

taggggag 508

<210> 19
<211> 508
<212> DNA
<213> Homo Sapien

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taggggag 508

<210> 20
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<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Oligonucleotide Probe

<400> 20
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<210> 21
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 21
ctcagttcgg ttggcaaagc tctc 24

<210> 22
<211> 69
<212> DNA
<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

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gctttgccaa ccgaactga 69

<210> 23

<211> 1520

<212> DNA

<213> Homo Sapien

<400> 23

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cgctcgtgga cggccacaac gacctgccc tggctctaag gcaggtttac 250

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REPORT

<211> 433

<213> Homo Sapien

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Val Tyr Gln Lys Gly Leu Gln Asp Val Asn Leu Arg Asn Phe Ser
50 55 60

Tyr Gly Gln Thr Ser Leu Asp Arg Leu Arg Asp Gly Leu Val Gly
65 70 75

Ala Gln Phe Trp Ser Ala Tyr Val Pro Cys Gln Thr Gln Asp Arg
80 85 90

Asp Ala Leu Arg Leu Thr Leu Glu Gln Ile Asp Leu Ile Arg Arg
95 100 105

Met Cys Ala Ser Tyr Ser Glu Leu Glu Leu Val Thr Ser Ala Lys
110 115 120

Ala Leu Asn Asp Thr Gln Lys Leu Ala Cys Leu Ile Gly Val Glu
125 130 135

Gly Gly His Ser Leu Asp Asn Ser Leu Ser Ile Leu Arg Thr Phe
140 145 150

Tyr Met Leu Gly Val Arg Tyr Leu Thr Leu Thr His Thr Cys Asn
155 160 165

Thr Pro Trp Ala Glu Ser Ser Ala Lys Gly Val His Ser Phe Tyr
170 175 180

Asn Asn Ile Ser Gly Leu Thr Asp Phe Gly Glu Lys Val Val Ala	185	190	195
Glu Met Asn Arg Leu Gly Met Met Val Asp Leu Ser His Val Ser	200	205	210
Asp Ala Val Ala Arg Arg Ala Leu Glu Val Ser Gln Ala Pro Val	215	220	225
Ile Phe Ser His Ser Ala Ala Arg Gly Val Cys Asn Ser Ala Arg	230	235	240
Asn Val Pro Asp Asp Ile Leu Gln Leu Leu Lys Lys Asn Gly Gly	245	250	255
Val Val Met Val Ser Leu Ser Met Gly Val Ile Gln Cys Asn Pro	260	265	270
Ser Ala Asn Val Ser Thr Val Ala Asp His Phe Asp His Ile Lys	275	280	285
Ala Val Ile Gly Ser Lys Phe Ile Gly Ile Gly Gly Asp Tyr Asp	290	295	300
Gly Ala Gly Lys Phe Pro Gln Gly Leu Glu Asp Val Ser Thr Tyr	305	310	315
Pro Val Leu Ile Glu Glu Leu Leu Ser Arg Gly Trp Ser Glu Glu	320	325	330
Glu Leu Gln Gly Val Leu Arg Gly Asn Leu Leu Arg Val Phe Arg	335	340	345
Gln Val Glu Lys Val Gln Glu Glu Asn Lys Trp Gln Ser Pro Leu	350	355	360
Glu Asp Lys Phe Pro Asp Glu Gln Leu Ser Ser Ser Cys His Ser	365	370	375
Asp Leu Ser Arg Leu Arg Gln Arg Gln Ser Leu Thr Ser Gly Gln	380	385	390
Glu Leu Thr Glu Ile Pro Ile His Trp Thr Ala Lys Leu Pro Ala	395	400	405
Lys Trp Ser Val Ser Glu Ser Ser Pro His Met Ala Pro Val Leu	410	415	420
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<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 25

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<210> 26

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 26

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<212> DNA

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<210> 28

<211> 50

<212> DNA

<213> Artificial Sequence

<220>

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<210> 29

<211> 1416

<212> DNA

<213> Homo Sapien

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gccctgatgc gggacttccc gctcgtggac ggccacaacg acctgcccct 200

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<211> 446
<212> PRT
<213> Homo Sapien
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Asp Ala Leu Arg	Leu Thr Leu Glu Gln Ile Asp Leu Ile Arg Arg				
	95		100		105
Met Cys Ala Ser	Tyr Ser Glu Leu Glu Leu Val Thr Ser Ala Lys				
	110		115		120
Ala Leu Asn Asp	Thr Gln Lys Leu Ala Cys Leu Ile Gly Val Glu				
	125		130		135
Gly Gly His Ser	Leu Asp Asn Ser Leu Ser Ile Leu Arg Thr Phe				
	140		145		150
Tyr Met Leu Gly	Val Arg Tyr Leu Thr Leu Thr His Thr Cys Asn				
	155		160		165
Thr Pro Trp Ala	Glu Ser Ser Ala Lys Gly Val His Ser Phe Tyr				
	170		175		180
Asn Asn Ile Ser	Gly Leu Thr Asp Phe Gly Glu Lys Val Val Ala				
	185		190		195
Glu Met Asn Arg	Leu Gly Met Met Val Asp Leu Ser His Val Ser				
	200		205		210
Asp Ala Val Ala	Arg Arg Ala Leu Glu Val Ser Gln Ala Pro Val				
	215		220		225
Ile Phe Ser His	Ser Ala Ala Arg Gly Val Cys Asn Ser Ala Arg				
	230		235		240
Asn Val Pro Asp	Asp Ile Leu Gln Leu Leu Lys Lys Asn Gly Gly				
	245		250		255
Val Val Met Val	Ser Leu Ser Met Gly Val Ile Gln Cys Asn Pro				
	260		265		270
Ser Ala Asn Val	Ser Thr Val Ala Asp His Phe Asp His Ile Lys				
	275		280		285
Ala Val Ile Gly	Ser Lys Phe Ile Gly Ile Gly Gly Asp Tyr Asp				
	290		295		300
Gly Ala Gly Lys	Phe Pro Gln Gly Leu Glu Asp Val Ser Thr Tyr				
	305		310		315
Pro Val Leu Ile	Glu Glu Leu Leu Ser Arg Gly Trp Ser Glu Glu				
	320		325		330
Glu Leu Gln Gly	Val Leu Arg Gly Asn Leu Leu Arg Val Phe Arg				
	335		340		345

Gln Val Glu Lys Val Gln Glu Glu Asn Lys Trp Gln Ser Pro Leu	350	355	360
Glu Asp Lys Phe Pro Asp Glu Gln Leu Ser Ser Ser Cys His Ser	365	370	375
Asp Leu Ser Arg Leu Arg Gln Arg Gln Ser Leu Thr Ser Gly Gln	380	385	390
Glu Leu Thr Glu Ile Pro Ile His Trp Thr Ala Lys Leu Pro Ala	395	400	405
Lys Trp Ser Val Ser Glu Ser Ser Pro His Pro Asp Lys Thr His	410	415	420
Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly Pro Ser	425	430	435
Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr	440	445	

<210> 31
 <211> 1790
 <212> DNA
 <213> Homo Sapien

<400> 31
 cgcccagcga cgtgcggggcg gectggcccg cgccctcccg cgcccggcct 50
 gcgctcccgcg ccctgcgcca ccgcgcgcca gccgcagccc gccgcgcgcc 100
 ccgggcagcg ccggccccat gccgcgcggc cgccgggggc ccgcgcgcca 150
 atccgcgcgg cgggcgcgcg cgttgctgcc cctgctgctg ctgctctgcg 200
 tccteggggc gccgcgagcc ggatcaggag ccacacagc tgtgatcagt 250
 cccaggatc ccacgtttct catcggtcc tccctgctgg ccacctgctc 300
 agtgcaaggga gaccacaccag gagccaccgc cgaggggctc tactggacc 350
 tcaacggggcg ccgcctgccc cctgagctct cccgtgtact caacgcctcc 400
 accttggtc tggeectggc caacctcaat ggggccaggc agcgggtcggg 450
 ggacaacctc gtgtgccacg cccgtgacgg cagcatcctg gctggctcct 500
 gcctctatgt tggcctgccc ccagagaaac ccgtcaacat cagctgctgg 550
 tccaagaaca tgaaggactt gacctgccgc tggacgccag gggcccacgg 600
 ggagaccttc ctccacacca actactcct caagtacaag cttaggtgg 650
 atggccagga caacacatgt gaggagtacc acacagtggg gcccactcc 700
 tgccacatcc ccaaggacct ggtctctttt acgcctatg agatctgggt 750
 ggaggccacc aaccgcctgg gctctgccc ctcgatgta ctcacgtgg 800

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atatacctgga tgtggtgacc acggaccccc cgcccagcgt gcacgtgagc 850
cgcgctcgggg gcctggagga ccagctgagc gtgcgctggg tgtcgccacc 900
cgccctcaag gatttctctt ttcaagccaa ataccagatc cgctaccgag 950
tggaggacag tgtggactgg aaggtggtgg acgatgtgag caaccagacc 1000
tcctgcccgc tggccggcct gaaacccggc accgtgtact tcgtgcaagt 1050
gcgctgcaac ccctttggca tctatggctc caagaaagcc gggatctgga 1100
gtgagtggag ccaccccaca gccgcctcca ctcccgcag tgagcgcccg 1150
ggcccggggc gcggggcggt cgaaccggcg ggccggagagc cgagctcggg 1200
gccggtgccc cgcgagctca agcagttcct gggctggctc aagaagcacg 1250
cgtactgctc caacctcagc ttccgcctct acgaccagtg gcgagcctgg 1300
atgcagaagt cgcacaagac ccgcaaccag gacgagggga tcctgccctc 1350
gggcagacgg ggcacggcga gaggtcctgc cagataagct gtaggggctc 1400
aggccaccct ccctgccacg tggagacgca gaggccgaac ccaaactggg 1450
gccacctctg taccctcact tcagggcacc tgagccaccc tcagcaggag 1500
ctgggggtggc cctgagctc caacggccat aacagctctg actcccacgt 1550
gaggccacct ttgggtgcac ccagtgggg gtgtgtgtgt gtgtgagggt 1600
tggttgagtt gcctagaacc cctgccaggg ctgggggtga gaaggggagt 1650
cattactccc cattacctag ggcccctcca aaagagtcct tttaaataaa 1700
tgagctatatt aggtgctgtg attgtgaaaa aaaaaaaaaa aaaaaaaaaa 1750
aaaaaaaaaa aaaaaaaaaa aaaaacaaaa aaaaaaaaaa 1790

<210> 32
<211> 422
<212> PRT
<213> Homo Sapien

<400> 32
Met Pro Ala Gly Arg Arg Gly Pro Ala Ala Gln Ser Ala Arg Arg
1 5 10 15
Pro Pro Pro Leu Leu Pro Leu Leu Leu Leu Cys Val Leu Gly
20 25 30
Ala Pro Arg Ala Gly Ser Gly Ala His Thr Ala Val Ile Ser Pro
35 40 45
Gln Asp Pro Thr Leu Leu Ile Gly Ser Ser Leu Leu Ala Thr Cys
50 55 60

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Ser	Val	His	Gly	Asp	Pro	Pro	Gly	Ala	Thr	Ala	Glu	Gly	Leu	Tyr	65	70	75
Trp	Thr	Leu	Asn	Gly	Arg	Arg	Leu	Pro	Pro	Glu	Leu	Ser	Arg	Val	80	85	90
Leu	Asn	Ala	Ser	Thr	Leu	Ala	Leu	Ala	Leu	Ala	Asn	Leu	Asn	Gly	95	100	105
Ser	Arg	Gln	Arg	Ser	Gly	Asp	Asn	Leu	Val	Cys	His	Ala	Arg	Asp	110	115	120
Gly	Ser	Ile	Leu	Ala	Gly	Ser	Cys	Leu	Tyr	Val	Gly	Leu	Pro	Pro	125	130	135
Glu	Lys	Pro	Val	Asn	Ile	Ser	Cys	Trp	Ser	Lys	Asn	Met	Lys	Asp	140	145	150
Leu	Thr	Cys	Arg	Trp	Thr	Pro	Gly	Ala	His	Gly	Glu	Thr	Phe	Leu	155	160	165
His	Thr	Asn	Tyr	Ser	Leu	Lys	Tyr	Lys	Leu	Arg	Trp	Tyr	Gly	Gln	170	175	180
Asp	Asn	Thr	Cys	Glu	Glu	Tyr	His	Thr	Val	Gly	Pro	His	Ser	Cys	185	190	195
His	Ile	Pro	Lys	Asp	Leu	Ala	Leu	Phe	Thr	Pro	Tyr	Glu	Ile	Trp	200	205	210
Val	Glu	Ala	Thr	Asn	Arg	Leu	Gly	Ser	Ala	Arg	Ser	Asp	Val	Leu	215	220	225
Thr	Leu	Asp	Ile	Leu	Asp	Val	Val	Thr	Thr	Asp	Pro	Pro	Pro	Asp	230	235	240
Val	His	Val	Ser	Arg	Val	Gly	Gly	Leu	Glu	Asp	Gln	Leu	Ser	Val	245	250	255
Arg	Trp	Val	Ser	Pro	Pro	Ala	Leu	Lys	Asp	Phe	Leu	Phe	Gln	Ala	260	265	270
Lys	Tyr	Gln	Ile	Arg	Tyr	Arg	Val	Glu	Asp	Ser	Val	Asp	Trp	Lys	275	280	285
Val	Val	Asp	Asp	Val	Ser	Asn	Gln	Thr	Ser	Cys	Arg	Leu	Ala	Gly	290	295	300
Leu	Lys	Pro	Gly	Thr	Val	Tyr	Phe	Val	Gln	Val	Arg	Cys	Asn	Pro	305	310	315
Phe	Gly	Ile	Tyr	Gly	Ser	Lys	Lys	Ala	Gly	Ile	Trp	Ser	Glu	Trp	320	325	330
Ser	His	Pro	Thr	Ala	Ala	Ser	Thr	Pro	Arg	Ser	Glu	Arg	Pro	Gly	335	340	345
Pro	Gly	Gly	Gly	Ala	Cys	Glu	Pro	Arg	Gly	Gly	Glu	Pro	Ser	Ser			

350	355	360
Gly Pro Val Arg Arg Glu Leu Lys Gln Phe Leu Gly Trp Leu Lys		
365	370	375
Lys His Ala Tyr Cys Ser Asn Leu Ser Phe Arg Leu Tyr Asp Gln		
380	385	390
Trp Arg Ala Trp Met Gln Lys Ser His Lys Thr Arg Asn Gln Asp		
395	400	405
Glu Gly Ile Leu Pro Ser Gly Arg Arg Gly Thr Ala Arg Gly Pro		
410	415	420

Ala Arg

<210> 33
 <211> 23
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic oligonucleotide probe

<400> 33
 cccgccccgac gtgcacgtga gcc 23

<210> 34
 <211> 23
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic oligonucleotide probe

<400> 34
 tgagccagcc caggaactgc ttg 23

<210> 35
 <211> 50
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic oligonucleotide probe

<400> 35
 caagtgcgct gcaacccctt tggcatctat ggctccaaga aagccgggat 50

<210> 36
 <211> 1771
 <212> DNA
 <213> Homo Sapien

<400> 36
 cccacgcgtc cgctggtgtt agatcgagca accctctaaa agcagtttag 50

gccactctgt ttctgagag atacctcaca ttccaatgcc aaacatttct 1550
gcacagggaa gctagagggtg gatacacgtg ttgcaagtat aaaagcatca 1600
ctgggattta aggagaattg agagaatgta cccacaaatg gcagcaataa 1650
taaatggatc acacttaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 1700
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 1750
aaaaaaaaaa aaaaaaaaaa a 1771

<210> 37
<211> 300
<212> PRT
<213> Homo Sapien

<400> 37
Met Lys Phe Leu Leu Asp Ile Leu Leu Leu Leu Pro Leu Leu Ile
1 5 10 15
Val Cys Ser Leu Glu Ser Phe Val Lys Leu Phe Ile Pro Lys Arg
20 25 30
Arg Lys Ser Val Thr Gly Glu Ile Val Leu Ile Thr Gly Ala Gly
35 40 45
His Gly Ile Gly Arg Leu Thr Ala Tyr Glu Phe Ala Lys Leu Lys
50 55 60
Ser Lys Leu Val Leu Trp Asp Ile Asn Lys His Gly Leu Glu Glu
65 70 75
Thr Ala Ala Lys Cys Lys Gly Leu Gly Ala Lys Val His Thr Phe
80 85 90
Val Val Asp Cys Ser Asn Arg Glu Asp Ile Tyr Ser Ser Ala Lys
95 100 105
Lys Val Lys Ala Glu Ile Gly Asp Val Ser Ile Leu Val Asn Asn
110 115 120
Ala Gly Val Val Tyr Thr Ser Asp Leu Phe Ala Thr Gln Asp Pro
125 130 135
Gln Ile Glu Lys Thr Phe Glu Val Asn Val Leu Ala His Phe Trp
140 145 150
Thr Thr Lys Ala Phe Leu Pro Ala Met Thr Lys Asn Asn His Gly
155 160 165
His Ile Val Thr Val Ala Ser Ala Ala Gly His Val Ser Val Pro
170 175 180
Phe Leu Leu Ala Tyr Cys Ser Ser Lys Phe Ala Ala Val Gly Phe
185 190 195
His Lys Thr Leu Thr Asp Glu Leu Ala Ala Leu Gln Ile Thr Gly

200	205	210
Val Lys Thr Thr Cys Leu Cys Pro Asn Phe Val Asn Thr Gly Phe		
215	220	225
Ile Lys Asn Pro Ser Thr Ser Leu Gly Pro Thr Leu Glu Pro Glu		
230	235	240
Glu Val Val Asn Arg Leu Met His Gly Ile Leu Thr Glu Gln Lys		
245	250	255
Met Ile Phe Ile Pro Ser Ser Ile Ala Phe Leu Thr Thr Leu Glu		
260	265	270
Arg Ile Leu Pro Glu Arg Phe Leu Ala Val Leu Lys Arg Lys Ile		
275	280	285
Ser Val Lys Phe Asp Ala Val Ile Gly Tyr Lys Met Lys Ala Gln		
290	295	300

<210> 38

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 38

ggtgaaggca gaaattggag atg 23

<210> 39

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 39

atcccatgca tcagcctgtt tacc 24

<210> 40

<211> 48

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 40

gctgggtgtag tctatacatc agatttggtt gctacacaag atcctcag 48

<210> 41

<211> 1377

<212> DNA

<213> Homo Sapien



<400> 41

gactagttct cttggagtct gggaggagga aagcggagcc ggcagggagc 50
gaaccaggac tggggtgacg gcagggcagg gggcgcttgg ccggggagaa 100
gcgcgggggc tggagcacca ccaactggag ggtccggagt agcgagcgcc 150
ccgaaggagg ccatcgggga gccgggaggg gggactgcca gaggaccccg 200
gcgtccgggc tcccggtgcc agcgctatga ggccactcct cgtcctgctg 250
ctcctggggc tggcggcggg ctgccccca ctggacgaca acaagatccc 300
cagcctctgc ccggggcacc ccggccttcc aggcacgccg ggccaccatg 350
gcagccaggg cttgccgggc cgcgatggcc gcgacggccg cgacggcgcg 400
cccggggctc cgggagagaa aggcgagggc gggaggccgg gactgccggg 450
acctcgaggg gaccccgggc cgcgaggaga ggcgggaccc gcggggccca 500
ccgggcctgc cggggagtgc tcggtgcctc cgcgatccgc cttcagcgcc 550
aagcgctccg agagccgggt gcctccgccg tctgacgcac ccttgccctt 600
cgaccgcgtg ctggtgaacg agcagggaca ttacgacgcc gtcaccggca 650
agtteacctg ccaggtgcct ggggtctact acttcgccgt ccatgccacc 700
gtctaccggg ccagcctgca gtttgatctg gtgaagaatg gcgaatccat 750
tgcctcttct ttcagtttt tcgggggggtg gcccaagcca gcctcgctct 800
cggggggggc catggtgagg ctggagcctg aggaccaagt gtgggtgcag 850
gtgggtgtgg gtgactacat tggcatctat gccagcatca agacagacag 900
caccttctcc ggatttctgg tgtactcca ctggcacagc tccccagtct 950
ttgcttagtg cccactgcaa agtgagctca tgctctcact cctagaagga 1000
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cttctgggc ctctgcttct ctggatctc cccacccct cctgctctg 1300
gggccggccc ttttctcaga gatcactcaa taaacctaa aacctcata 1350
aaaaaaaaa aaaaaaaaaa aaaaaaa 1377

<210> 42

<211> 243
 <212> PRT
 <213> Homo Sapien

<400> 42

Met	Arg	Pro	Leu	Leu	Val	Leu	Leu	Leu	Leu	Gly	Leu	Ala	Ala	Gly	1	5	10	15
Ser	Pro	Pro	Leu	Asp	Asp	Asn	Lys	Ile	Pro	Ser	Leu	Cys	Pro	Gly	20	25	30	
His	Pro	Gly	Leu	Pro	Gly	Thr	Pro	Gly	His	His	Gly	Ser	Gln	Gly	35	40	45	
Leu	Pro	Gly	Arg	Asp	Gly	Arg	Asp	Gly	Arg	Asp	Gly	Ala	Pro	Gly	50	55	60	
Ala	Pro	Gly	Glu	Lys	Gly	Glu	Gly	Gly	Arg	Pro	Gly	Leu	Pro	Gly	65	70	75	
Pro	Arg	Gly	Asp	Pro	Gly	Pro	Arg	Gly	Glu	Ala	Gly	Pro	Ala	Gly	80	85	90	
Pro	Thr	Gly	Pro	Ala	Gly	Glu	Cys	Ser	Val	Pro	Pro	Arg	Ser	Ala	95	100	105	
Phe	Ser	Ala	Lys	Arg	Ser	Glu	Ser	Arg	Val	Pro	Pro	Pro	Ser	Asp	110	115	120	
Ala	Pro	Leu	Pro	Phe	Asp	Arg	Val	Leu	Val	Asn	Glu	Gln	Gly	His	125	130	135	
Tyr	Asp	Ala	Val	Thr	Gly	Lys	Phe	Thr	Cys	Gln	Val	Pro	Gly	Val	140	145	150	
Tyr	Tyr	Phe	Ala	Val	His	Ala	Thr	Val	Tyr	Arg	Ala	Ser	Leu	Gln	155	160	165	
Phe	Asp	Leu	Val	Lys	Asn	Gly	Glu	Ser	Ile	Ala	Ser	Phe	Phe	Gln	170	175	180	
Phe	Phe	Gly	Gly	Trp	Pro	Lys	Pro	Ala	Ser	Leu	Ser	Gly	Gly	Ala	185	190	195	
Met	Val	Arg	Leu	Glu	Pro	Glu	Asp	Gln	Val	Trp	Val	Gln	Val	Gly	200	205	210	
Val	Gly	Asp	Tyr	Ile	Gly	Ile	Tyr	Ala	Ser	Ile	Lys	Thr	Asp	Ser	215	220	225	
Thr	Phe	Ser	Gly	Phe	Leu	Val	Tyr	Ser	Asp	Trp	His	Ser	Ser	Pro	230	235	240	
Val	Phe	Ala																

<210> 43
 <211> 24

<212> DNA
 <213> Artificial Sequence

 <220>
 <223> Synthetic oligonucleotide probe

 <400> 43
 tacaggccca gtcaggacca gggg 24

 <210> 44
 <211> 18
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Synthetic oligonucleotide probe

 <400> 44
 agccagcctc gctctcgg 18

 <210> 45
 <211> 18
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Synthetic oligonucleotide probe

 <400> 45
 gtctgcatc aggtctgg 18

 <210> 46
 <211> 20
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Synthetic oligonucleotide probe

 <400> 46
 gaaagaggca atggattcgc 20

 <210> 47
 <211> 24
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Synthetic oligonucleotide probe

 <400> 47
 gacttacact tgccagcaca gcac 24

 <210> 48
 <211> 45
 <212> DNA
 <213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 48

ggagcaccac caactggagg gtccggagta gcgagcgccc cgaag 45

<210> 49

<211> 1876

<212> DNA

<213> Homo Sapien

<400> 49

ctcttttgtc caccagccca gctgactcc tggagattgt gaatagctcc 50
atccagcctg agaaacaagc cgggtggctg agccaggctg tgcacggagc 100
acctgacggg cccaacagac ccattgctgca tccagagacc tcccctggcc 150
gggggcatct cctggctgtg ctcttgccc tccttggcac cacctgggca 200
gaggtgtggc caccagct gcaggagcag gctccgatgg ccggagccct 250
gaacaggaag gagagtttct tgctcctctc cctgcacaac cgctgcgca 300
gctgggtcca gcccctgctg gctgacatgc ggaggctgga ctggagtgc 350
agcctggccc aactggctca agccaggga gccctctgtg gaatcccaac 400
cccgagcctg gcatccggcc tgtggcgcac cctgcaagtg ggctggaaca 450
tgcagctgtc gcccgcgggc ttggcgctct ttgttgaagt ggtcagccta 500
tggtttgcag aggggcagcg gtacagccac gcggcaggag agtgtgctcg 550
caacgccacc tgcacccact acacgcagct cgtgtggggc acctcaagcc 600
agctgggctg tgggcggcac ctgtgctctg caggccagac agcgatagaa 650
gcctttgtct gtgcctactc ccccgaggc aactgggagg tcaacgggaa 700
gacaatcatc cccataaga agggcgctg gtgttcgctc tgcacagcca 750
gtgtctcagg ctgcttcaaa gctgggacc atgcaggggg gctctgtgag 800
gtccccagga atccttgctg catgagctgc cagaacctg gacgtctcaa 850
catcagcacc tgccactgcc actgtcccc tggtacacg ggcagatact 900
gccaagtgcg gtgcagcctg cagtgtgtgc acggccgggt ccgggaggag 950
gagtgtcgt gcgtctgtga catcggtac gggggagccc agtgtgccac 1000
caaggtgcat ttcccttcc acacctgtga cctgaggatc gacggagact 1050
gcttcatggt gtcttcagag gcagacacct attacagagc caggatgaaa 1100
tgtcagagga aaggcggggt gctggcccag atcaagagcc agaaagtgc 1150

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<211> 455

<212> PRT

<213> Homo Sapien

Met Leu His Pro Glu Thr Ser Pro Gly Arg Gly His Leu Leu Ala
1 5 10 15

Val Leu Leu Ala Leu Leu Gly Thr Thr Trp Ala Glu Val Trp Pro
20 25 30

Pro Gln Leu Gln Glu Gln Ala Pro Met Ala Gly Ala Leu Asn Arg
35 40 45

Lys Glu Ser Phe Leu Leu Leu Ser Leu His Asn Arg Leu Arg Ser
50 55 60

Trp Val Gln Pro Pro Ala Ala Asp Met Arg Arg Leu Asp Trp Ser
65 70 75

Asp Ser Leu Ala Gln Leu Ala Gln Ala Arg Ala Ala Leu Cys Gly
80 85 90

Ile Pro Thr Pro Ser Leu Ala Ser Gly Leu Trp Arg Thr Leu Gln
95 100 105

Val Gly Trp Asn Met Gln Leu Leu Pro Ala Gly Leu Ala Ser Phe

				110					115					120
Val	Glu	Val	Val	Ser 125	Leu	Trp	Phe	Ala	Glu 130	Gly	Gln	Arg	Tyr	Ser 135
His	Ala	Ala	Gly	Glu 140	Cys	Ala	Arg	Asn	Ala 145	Thr	Cys	Thr	His	Tyr 150
Thr	Gln	Leu	Val	Trp 155	Ala	Thr	Ser	Ser	Gln 160	Leu	Gly	Cys	Gly	Arg 165
His	Leu	Cys	Ser	Ala 170	Gly	Gln	Thr	Ala	Ile 175	Glu	Ala	Phe	Val	Cys 180
Ala	Tyr	Ser	Pro	Gly 185	Gly	Asn	Trp	Glu	Val 190	Asn	Gly	Lys	Thr	Ile 195
Ile	Pro	Tyr	Lys	Lys 200	Gly	Ala	Trp	Cys	Ser 205	Leu	Cys	Thr	Ala	Ser 210
Val	Ser	Gly	Cys	Phe 215	Lys	Ala	Trp	Asp	His 220	Ala	Gly	Gly	Leu	Cys 225
Glu	Val	Pro	Arg	Asn 230	Pro	Cys	Arg	Met	Ser 235	Cys	Gln	Asn	His	Gly 240
Arg	Leu	Asn	Ile	Ser 245	Thr	Cys	His	Cys	His 250	Cys	Pro	Pro	Gly	Tyr 255
Thr	Gly	Arg	Tyr	Cys 260	Gln	Val	Arg	Cys	Ser 265	Leu	Gln	Cys	Val	His 270
Gly	Arg	Phe	Arg	Glu 275	Glu	Glu	Cys	Ser	Cys 280	Val	Cys	Asp	Ile	Gly 285
Tyr	Gly	Gly	Ala	Gln 290	Cys	Ala	Thr	Lys	Val 295	His	Phe	Pro	Phe	His 300
Thr	Cys	Asp	Leu	Arg 305	Ile	Asp	Gly	Asp	Cys 310	Phe	Met	Val	Ser	Ser 315
Glu	Ala	Asp	Thr	Tyr 320	Tyr	Arg	Ala	Arg	Met 325	Lys	Cys	Gln	Arg	Lys 330
Gly	Gly	Val	Leu	Ala 335	Gln	Ile	Lys	Ser	Gln 340	Lys	Val	Gln	Asp	Ile 345
Leu	Ala	Phe	Tyr	Leu 350	Gly	Arg	Leu	Glu	Thr 355	Thr	Asn	Glu	Val	Thr 360
Asp	Ser	Asp	Phe	Glu 365	Thr	Arg	Asn	Phe	Trp 370	Ile	Gly	Leu	Thr	Tyr 375
Lys	Thr	Ala	Lys	Asp 380	Ser	Phe	Arg	Trp	Ala 385	Thr	Gly	Glu	His	Gln 390
Ala	Phe	Thr	Ser	Phe 395	Ala	Phe	Gly	Gln	Pro 400	Asp	Asn	His	Gly	Leu 405

Val Trp Leu Ser Ala Ala Met Gly Phe Gly Asn Cys Val Glu Leu
410 415 420

Gln Ala Ser Ala Ala Phe Asn Trp Asn Asp Gln Arg Cys Lys Thr
425 430 435

Arg Asn Arg Tyr Ile Cys Gln Phe Ala Gln Glu His Ile Ser Arg
440 445 450

Trp Gly Pro Gly Ser
455

<210> 51
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 51
aggaacttct ggatcgggct cacc 24

<210> 52
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 52
gggtctgggc caggtggaag agag 24

<210> 53
<211> 45
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 53
gccaaggact ccttccgctg ggccacaggg gagcaccagg ccttc 45

<210> 54
<211> 2331
<212> DNA
<213> Homo Sapien

<400> 54
cggacgcgtg ggctgggagc tgcaaagcgt gtcccgccgg gtccccgagc 50
gtcccgccgc ctgccccgc catgtcctg ctgctggggc tgtgcctggg 100
gctgtccctg tgtgtggggt cgcaggaaga ggcgcagagc tggggccact 150
cttcggagca ggatggactc aggggtccga ggcaagtcag actgttgag 200

aggctgaaaa ccaaaccctt gatgacagaa ttctcagtga agtctaccat 250
 catttcccgat tatgccttca ctacgggttc ctgcagaatg ctgaacagag 300
 cttctgaaga ccaggacatt gagttccaga tgcagattcc agctgcagct 350
 ttcataacca acttcactat gcttattgga gacaagggtg atcagggcga 400
 aattacagag agagaaaaga agagtgggtga tagggtaaaa gagaaaagga 450
 ataaaaccac agaagaaaat ggagagaagg ggactgaaat attcagagct 500
 tctgcagtga ttcccagcaa ggacaaagcc gcctttttcc tgagttatga 550
 ggagcttctg cagaggcgcc tgggcaagta cgagcacagc atcagcgtgc 600
 ggccccagca gctgtccggg aggctgagcg tggacgtgaa tatectggag 650
 agcgcgggca tcgcatccct ggaggtgctg ccgcttcaca acagcaggca 700
 gaggggcagt gggcgcgggg aagatgattc tgggcctccc ccatctactg 750
 tcattaacca aaatgaaaca ttgccaaca taatttttaa acctactgta 800
 gtacaacaag ccaggattgc ccagaatgga attttgggag actttatcat 850
 tagatatgac gtcaatagag aacagagcat tggggacatc caggttctaa 900
 atggctatct tgtgcactac ttgtctcta aagaccttcc tcttttacc 950
 aagaatgtgg tattcgtgct tgacagcagt gcttctatgg tgggaaccaa 1000
 actccggcag accaaggatg cctctctcac aattctccat gacctccgac 1050
 cccaggaccg ttccagtatc attggatttt ccaaccggat caaagtatgg 1100
 aaggaccact tgatatcagt cactccagac agcatcaggg atgggaaagt 1150
 gtacattcac catatgtcac ccactggagg cacagacatc aacggggccc 1200
 tgcagagggc catcaggctc ctcaacaagt acgtggccca cagtggcatt 1250
 ggagaccgga gcgtgtccct catcgtcttc ctgacggatg ggaagcccac 1300
 ggtcggggag acgcacaccc tcaagatcct caacaacacc cgagaggccg 1350
 cccgaggcca agtctgcac ttcaccattg gcacggcaa cgacgtggac 1400
 ttcaggctgc tggagaaact gtcgctggag aactgtggcc tcacacggcg 1450
 cgtgcacgag gaggaggacg caggctcgca gctcatcggg ttctacgatg 1500
 aaatcaggac cccgctcttc tctgacatcc gcacgatta tccccccagc 1550
 tcagtgggtg aggccaccaa gacctgttc cccaactact tcaacggctc 1600
 ggagatcatc attgcgggga agctgggtgga caggaagctg gatcacctgc 1650

[illegible]

<213> Homo Sapien

Val Tyr Gln Gly Glu Ile Thr Glu Arg Glu Lys Lys Ser Gly Asp
110 115 120

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ASTEN LENOX TILDEN FOUNDATION

[illegible]

<210> 56
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 56
gtgggaacca aactccggca gacc 24

<210> 57
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 57
cacatcgagc gtctctgg 18

<210> 58
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 58
agccgctcct tctccggttc atcg 24

<210> 59
<211> 48
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 59
tggaaggacc acttgatatc agtcactcca gacagcatca gggatggg 48

<210> 60
<211> 1413
<212> DNA
<213> Homo Sapien

<400> 60
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tgctgttget cttctccgcc gcggcactga tccccacagg tgatgggcag 150
aatctgttta cgaaagacgt gacagtgatc gagggagagg ttgcgaccat 200

cagttgccaa gtcaataaga gtgacgactc tgtgattcag ctactgaatc 250
ccaacaggca gaccatztat ttcagggaact tcaggccttt gaaggacagc 300
aggtttcagt tgctgaattt ttctagcagt gaactcaaag tatcattgac 350
aaacgtctca atttctgatg aaggaagata cttttgccag ctctataaccg 400
atccccaca ggaaagttac accaccatca cagtccctggc cccaccacgt 450
aatctgatga tcgatatcca gaaagacact gcggtggaag gtgaggagat 500
tgaagtcaac tgcactgcta tggccagcaa gccagccacg actatcaggt 550
ggttcaaagg gaacacagag ctaaaaggca aatcggaggt ggaagagtgg 600
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ggacgatggg gtcccagtga tctgccaggt ggagcaccct gcggtcactg 700
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cacattcaga tgacttatcc tctacaaggc ttaacccggg aaggggacgc 800
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cccaacctgt tcatcaataa cctaaacaaa acagataatg gtacataaccg 950
ctgtgaagct tcaaacatag tgggggaaagc tcaactcgat tatatgctgt 1000
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aggagccgat gacgcagcag acgcagacac agctataatc aatgcagaag 1300
gaggacagaa caactccgaa gaaaagaaag agtacttcat ctagatcagc 1350
ctttttgttt caatgaggtg tccaactggc cctattttaga tgataaagag 1400
acagtgatat tgg 1413

<210> 61

<211> 440

<212> PRT

<213> Homo Sapien

<400> 61

Met Ala Ser Val Val Leu Pro Ser Gly Ser Gln Cys Ala Ala Ala
1 5 10 15

Ala	Ala	Ala	Ala	Ala	Pro	Pro	Gly	Leu	Arg	Leu	Leu	Leu	Leu	Leu	
				20					25						30
Phe	Ser	Ala	Ala	Ala	Leu	Ile	Pro	Thr	Gly	Asp	Gly	Gln	Asn	Leu	
				35					40						45
Phe	Thr	Lys	Asp	Val	Thr	Val	Ile	Glu	Gly	Glu	Val	Ala	Thr	Ile	
				50					55						60
Ser	Cys	Gln	Val	Asn	Lys	Ser	Asp	Asp	Ser	Val	Ile	Gln	Leu	Leu	
				65					70						75
Asn	Pro	Asn	Arg	Gln	Thr	Ile	Tyr	Phe	Arg	Asp	Phe	Arg	Pro	Leu	
				80					85						90
Lys	Asp	Ser	Arg	Phe	Gln	Leu	Leu	Asn	Phe	Ser	Ser	Ser	Glu	Leu	
				95					100						105
Lys	Val	Ser	Leu	Thr	Asn	Val	Ser	Ile	Ser	Asp	Glu	Gly	Arg	Tyr	
				110					115						120
Phe	Cys	Gln	Leu	Tyr	Thr	Asp	Pro	Pro	Gln	Glu	Ser	Tyr	Thr	Thr	
				125					130						135
Ile	Thr	Val	Leu	Val	Pro	Pro	Arg	Asn	Leu	Met	Ile	Asp	Ile	Gln	
				140					145						150
Lys	Asp	Thr	Ala	Val	Glu	Gly	Glu	Glu	Ile	Glu	Val	Asn	Cys	Thr	
				155					160						165
Ala	Met	Ala	Ser	Lys	Pro	Ala	Thr	Thr	Ile	Arg	Trp	Phe	Lys	Gly	
				170					175						180
Asn	Thr	Glu	Leu	Lys	Gly	Lys	Ser	Glu	Val	Glu	Glu	Trp	Ser	Asp	
				185					190						195
Met	Tyr	Thr	Val	Thr	Ser	Gln	Leu	Met	Leu	Lys	Val	His	Lys	Glu	
				200					205						210
Asp	Asp	Gly	Val	Pro	Val	Ile	Cys	Gln	Val	Glu	His	Pro	Ala	Val	
				215					220						225
Thr	Gly	Asn	Leu	Gln	Thr	Gln	Arg	Tyr	Leu	Glu	Val	Gln	Tyr	Lys	
				230					235						240
Pro	Gln	Val	His	Ile	Gln	Met	Thr	Tyr	Pro	Leu	Gln	Gly	Leu	Thr	
				245					250						255
Arg	Glu	Gly	Asp	Ala	Leu	Glu	Leu	Thr	Cys	Glu	Ala	Ile	Gly	Lys	
				260					265						270
Pro	Gln	Pro	Val	Met	Val	Thr	Trp	Val	Arg	Val	Asp	Asp	Glu	Met	
				275					280						285
Pro	Gln	His	Ala	Val	Leu	Ser	Gly	Pro	Asn	Leu	Phe	Ile	Asn	Asn	
				290					295						300
Leu	Asn	Lys	Thr	Asp	Asn	Gly	Thr	Tyr	Arg	Cys	Glu	Ala	Ser	Asn	

[illegible]

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<210> 62
<211> 24
<212> DNA
<213> Artificial Sequence
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<400> 62
ggcttctgct gttgctcttc tccg 24
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<220>
<223> Synthetic oligonucleotide probe

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<210> 64
<211> 20
<212> DNA
<213> Artificial Sequence
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<400> 64
atcatcacag attcccgagc 20

<210> 65
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 65
ttcaatctcc tcaccttcca ccgc 24

<210> 66
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 66
atagctgtgt ctgcgtctgc tgcg 24

<210> 67
<211> 50
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 67
cgcggcactg atccccacag gtgatgggca gaatctgttt acgaaagacg 50

<210> 68
<211> 2555
<212> DNA
<213> Homo Sapien

<400> 68
ggggcggggtg gacgcggact cgaacgcagt tgcttcggga cccaggaccc 50
cctcggggccc gacccgccag gaaagactga ggccgcggcc tgccccgccc 100
ggctccctgc gccgcgcgcg cctcccggga cagaagatgt gctccagggt 150
ccctctgctg ctgccgctgc tctgtctact ggccctgggg cctgggggtgc 200
agggctgccc atccggctgc cagtgcagcc agccacagac agtctttctgc 250
actgcccgcc aggggaccac ggtgccccga gacgtgccac ccgacacggt 300
ggggctgtac gtctttgaga acggcatcac catgctcgac gcaagcagct 350
ttgccggcct gccgggcctg cagctcctgg acctgtcaca gaaccagatc 400

gccagcctgc gcctgccccg cctgctgctg ctggacctca gccacaacag 450
 cctcctggcc ctggagcccc gcacccctga cactgccaac gtggaggcgc 500
 tgcggctggc tgggtctgggg ctgcagcagc tggacgaggg gctcttcagc 550
 cgcttgcgca acctccacga cctggatgtg tccgacaacc agctggagcg 600
 agtgccacct gtgatccgag gcctccgggg cctgacgcgc ctgcggctgg 650
 ccggcaacac ccgcattgcc cagctgcggc ccgaggacct ggccggcctg 700
 gctgccctgc aggagctgga tgtgagcaac ctaagcctgc aggccctgcc 750
 tggcgacctc tcgggcctct tccccgcct gcggctgctg gcagctgccc 800
 gcaaccctt caactgcgtg tgccccctga gctggtttg ccctgggtg 850
 cgcgagagcc acgtcacact ggccagccct gaggagagcg gctgccactt 900
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 ttggctgccc agccaccacc accacagcca cagtgcacc caccaggccc 1000
 gtggtgcggg agcccacagc cttgtcttct agcttggtc ctacctggct 1050
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 caccgactgt agggcctgtc cccagcccc aggactgccc accgtccacc 1150
 tgcctcaatg ggggcacatg ccacctgggg acacggcacc acctggcgtg 1200
 cttgtgcccc gaaggcttca cgggcctgta ctgtgagagc cagatggggc 1250
 aggggacacg gccagccct acaccagtc cgcgaggcc accacggtcc 1300
 ctgacctggt gcacgagcc ggtgagcccc acctccctgc gcgtggggct 1350
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 gccccagtca cccaggcccc cgagggcaac ctgccgctcc tcattgcgcc 1650
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 actgtgtgcg gcggggcggg gccatggcag cagcggctca ggacaaaggg 1750
 caggtggggc caggggctgg gccctggaa ctggaggag tgaaggctcc 1800
 cttggagcca ggcccgaagg caacagagg cggtggagag gccctgcccc 1850

COLORED PEOPLE

<211> 598

<213> Homo Sapien

Met Cys Ser Arg Val Pro Leu Leu Leu Pro Leu Leu Leu Leu Leu
1 5 10 15

Ala Leu Gly Pro Gly Val Gln Gly Cys Pro Ser Gly Cys Gln Cys
20 25 30

Ser Gln Pro Gln Thr Val Phe Cys Thr Ala Arg Gln Gly Thr Thr
35 40 45

Val Pro Arg Asp Val Pro Pro Asp Thr Val Gly Leu Tyr Val Phe
50 55 60

Glu Asn Gly Ile Thr Met Leu Asp Ala Ser Ser Phe Ala Gly Leu
65 70 75

Pro Gly Leu Gln Leu Leu Asp Leu Ser Gln Asn Gln Ile Ala Ser
80 85 90

Leu Arg Leu Pro Arg Leu Leu Leu Leu Asp Leu Ser His Asn Ser
95 100 105

51

				110					115					120
Ala	Leu	Arg	Leu	Ala	Gly	Leu	Gly	Leu	Gln	Gln	Leu	Asp	Glu	Gly
				125					130					135
Leu	Phe	Ser	Arg	Leu	Arg	Asn	Leu	His	Asp	Leu	Asp	Val	Ser	Asp
				140					145					150
Asn	Gln	Leu	Glu	Arg	Val	Pro	Pro	Val	Ile	Arg	Gly	Leu	Arg	Gly
				155					160					165
Leu	Thr	Arg	Leu	Arg	Leu	Ala	Gly	Asn	Thr	Arg	Ile	Ala	Gln	Leu
				170					175					180
Arg	Pro	Glu	Asp	Leu	Ala	Gly	Leu	Ala	Ala	Leu	Gln	Glu	Leu	Asp
				185					190					195
Val	Ser	Asn	Leu	Ser	Leu	Gln	Ala	Leu	Pro	Gly	Asp	Leu	Ser	Gly
				200					205					210
Leu	Phe	Pro	Arg	Leu	Arg	Leu	Leu	Ala	Ala	Ala	Arg	Asn	Pro	Phe
				215					220					225
Asn	Cys	Val	Cys	Pro	Leu	Ser	Trp	Phe	Gly	Pro	Trp	Val	Arg	Glu
				230					235					240
Ser	His	Val	Thr	Leu	Ala	Ser	Pro	Glu	Glu	Thr	Arg	Cys	His	Phe
				245					250					255
Pro	Pro	Lys	Asn	Ala	Gly	Arg	Leu	Leu	Leu	Glu	Leu	Asp	Tyr	Ala
				260					265					270
Asp	Phe	Gly	Cys	Pro	Ala	Thr	Thr	Thr	Thr	Ala	Thr	Val	Pro	Thr
				275					280					285
Thr	Arg	Pro	Val	Val	Arg	Glu	Pro	Thr	Ala	Leu	Ser	Ser	Ser	Leu
				290					295					300
Ala	Pro	Thr	Trp	Leu	Ser	Pro	Thr	Ala	Pro	Ala	Thr	Glu	Ala	Pro
				305					310					315
Ser	Pro	Pro	Ser	Thr	Ala	Pro	Pro	Thr	Val	Gly	Pro	Val	Pro	Gln
				320					325					330
Pro	Gln	Asp	Cys	Pro	Pro	Ser	Thr	Cys	Leu	Asn	Gly	Gly	Thr	Cys
				335					340					345
His	Leu	Gly	Thr	Arg	His	His	Leu	Ala	Cys	Leu	Cys	Pro	Glu	Gly
				350					355					360
Phe	Thr	Gly	Leu	Tyr	Cys	Glu	Ser	Gln	Met	Gly	Gln	Gly	Thr	Arg
				365					370					375
Pro	Ser	Pro	Thr	Pro	Val	Thr	Pro	Arg	Pro	Pro	Arg	Ser	Leu	Thr
				380					385					390
Leu	Gly	Ile	Glu	Pro	Val	Ser	Pro	Thr	Ser	Leu	Arg	Val	Gly	Leu
				395					400					405

Gln Arg Tyr Leu	Gln Gly Ser Ser Val	Gln Leu Arg Ser Leu Arg
410		415 420
Leu Thr Tyr Arg	Asn Leu Ser Gly Pro	Asp Lys Arg Leu Val Thr
425		430 435
Leu Arg Leu Pro	Ala Ser Leu Ala Glu Tyr Thr Val Thr Gln Leu	
440		445 450
Arg Pro Asn Ala	Thr Tyr Ser Val Cys Val Met Pro Leu Gly Pro	
455		460 465
Gly Arg Val Pro	Glu Gly Glu Glu Ala Cys Gly Glu Ala His Thr	
470		475 480
Pro Pro Ala Val	His Ser Asn His Ala Pro Val Thr Gln Ala Arg	
485		490 495
Glu Gly Asn Leu	Pro Leu Leu Ile Ala Pro Ala Leu Ala Ala Val	
500		505 510
Leu Leu Ala Ala	Leu Ala Ala Val Gly Ala Ala Tyr Cys Val Arg	
515		520 525
Arg Gly Arg Ala	Met Ala Ala Ala Ala Gln Asp Lys Gly Gln Val	
530		535 540
Gly Pro Gly Ala	Gly Pro Leu Glu Leu Glu Gly Val Lys Val Pro	
545		550 555
Leu Glu Pro Gly	Pro Lys Ala Thr Glu Gly Gly Gly Glu Ala Leu	
560		565 570
Pro Ser Gly Ser	Glu Cys Glu Val Pro Leu Met Gly Phe Pro Gly	
575		580 585
Pro Gly Leu Gln	Ser Pro Leu His Ala Lys Pro Tyr Ile	
590		595

<210> 70

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 70

ccctccactg cccaccgac tg 22

<210> 71

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 71
 cggttctggg gacgttaggg ctcg 24

 <210> 72
 <211> 25
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Synthetic oligonucleotide probe

 <400> 72
 ctgcccacgg tccacctgcc tcaat 25

 <210> 73
 <211> 45
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Synthetic oligonucleotide probe

 <400> 73
 aggactgccc accgtccacc tgcctcaatg ggggcacatg ccacc 45

 <210> 74
 <211> 45
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Synthetic Oligonucleotide Probe

 <400> 74
 acgcaaagcc ctacatctaa gccagagaga gacagggcag ctggg 45

 <210> 75
 <211> 1077
 <212> DNA
 <213> Homo Sapien

 <400> 75
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 cgccccgcca cctccttget accccactct tgaaaccaca gctgttgcca 100
 gggtcgccag ctcatgccag cctcatctcc tttcttgcta gccccaaaag 150
 ggctccagg caacatgggg ggcccagtc gagagccggc actctcagtt 200
 gccctctggt tgagttgggg ggcagctctg ggggccgtgg cttgtgccat 250
 ggctctgctg acccaacaaa cagagctgca gagcctcagg agagaggtga 300
 gccggctgca ggggacagga ggcccctccc agaatgggga agggatatccc 350
 tggcagagtc tcccggagca gagttccgat gccctggaag cctgggagaa 400

tggggagaga tcccggaaaa ggagagcagt gctcacccaa aaacagaaga 450
 agcagcactc tgtcctgcac ctggttccca ttaacgccac ctccaaggat 500
 gactccgatg tgacagaggt gatgtggcaa ccagctctta ggcgtgggag 550
 aggcctacag gccaaggat atggtgtccg aatccaggat gctggagttt 600
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 caggtggtgt ctcgagaagg ccaaggaagg caggagactc tattccgatg 700
 tataagaagt atgccctccc acccggaaccg ggctacaac agctgctata 750
 gcgcaggtgt cttccattta caccaagggg atattctgag tgtcataatt 800
 ccccgggcaa gggcgaaact taacctctct ccacatggaa ccttctctggg 850
 gtttgtgaaa ctgtgattgt gttataaaaa gtggctccca gcttggaaga 900
 ccagggtggg tacatactgg agacagccaa gagctgagta tataaaggag 950
 agggaatgtg caggaacaga ggcattcttc tgggtttggc tcccgttcc 1000
 tcacttttcc cttttcattc ccacccctta gactttgatt ttacggatat 1050
 cttgcttctg ttcccatgg agctccg 1077

<210> 76
 <211> 250
 <212> PRT
 <213> Homo Sapien

<400> 76
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 1 5 10 15
 Gly Asn Met Gly Gly Pro Val Arg Glu Pro Ala Leu Ser Val Ala
 20 25 30
 Leu Trp Leu Ser Trp Gly Ala Ala Leu Gly Ala Val Ala Cys Ala
 35 40 45
 Met Ala Leu Leu Thr Gln Gln Thr Glu Leu Gln Ser Leu Arg Arg
 50 55 60
 Glu Val Ser Arg Leu Gln Gly Thr Gly Gly Pro Ser Gln Asn Gly
 65 70 75
 Glu Gly Tyr Pro Trp Gln Ser Leu Pro Glu Gln Ser Ser Asp Ala
 80 85 90
 Leu Glu Ala Trp Glu Asn Gly Glu Arg Ser Arg Lys Arg Arg Ala
 95 100 105
 Val Leu Thr Gln Lys Gln Lys Lys Gln His Ser Val Leu His Leu
 110 115 120

Val	Pro	Ile	Asn	Ala	Thr	Ser	Lys	Asp	Asp	Ser	Asp	Val	Thr	Glu
			125						130					135
Val	Met	Trp	Gln	Pro	Ala	Leu	Arg	Arg	Gly	Arg	Gly	Leu	Gln	Ala
			140						145					150
Gln	Gly	Tyr	Gly	Val	Arg	Ile	Gln	Asp	Ala	Gly	Val	Tyr	Leu	Leu
			155						160					165
Tyr	Ser	Gln	Val	Leu	Phe	Gln	Asp	Val	Thr	Phe	Thr	Met	Gly	Gln
			170						175					180
Val	Val	Ser	Arg	Glu	Gly	Gln	Gly	Arg	Gln	Glu	Thr	Leu	Phe	Arg
			185						190					195
Cys	Ile	Arg	Ser	Met	Pro	Ser	His	Pro	Asp	Arg	Ala	Tyr	Asn	Ser
			200						205					210
Cys	Tyr	Ser	Ala	Gly	Val	Phe	His	Leu	His	Gln	Gly	Asp	Ile	Leu
			215						220					225
Ser	Val	Ile	Ile	Pro	Arg	Ala	Arg	Ala	Lys	Leu	Asn	Leu	Ser	Pro
			230						235					240
His	Gly	Thr	Phe	Leu	Gly	Phe	Val	Lys	Leu					
			245						250					

<210> 77
 <211> 2849
 <212> DNA
 <213> Homo Sapien

<400> 77
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 ggctgcagag acctcggaga ccgcgccggg gagacggagg tgctgtgggt 100
 gggggggacc tgtggctgct cgtaccgccc cccaccctcc tcttctgcac 150
 tgccgtcttc cggaagacct tttcccttgc tctgttttct tcaccgagtc 200
 tgtgcatcgc cccggacctg gccggggagga ggcttggccg gcgggagatg 250
 ctctaggggc ggcgcgagg gagcgccgg cgggacggag ggcccggcag 300
 gaagatgggc tccctgggac agggactctt gctggcgtag tgcttgcctc 350
 ttgcctttgc ctctggcctg gtctgagtc gtgtgcccc tgtccagggg 400
 gaacagcagg agtgggagg gactgaggag ctgccgtcgc ctccggacca 450
 tgccgagagg gctgaagaac aacatgaaaa atacaggccc agtcaggacc 500
 aggggctccc tgcttcccg tgcttgcgct gctgtgaccc cggtagctcc 550
 atgtaccgg cgaccgccgt gcccagatc aacatcacta tcttgaaagg 600
 ggagaagggt gaccgcggag atcgaggcct ccaagggaat tatggcaaaa 650

caggetcagc agggggccagg gggccacactg gacccaaagg gcagaagggc 700
 tccatggggg cccctgggga gcggtgcaag agccactacg ccgccttttc 750
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 ggcaagttct actgctacgt gcccggcctc tactttttca gcctcaacgt 900
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[illegible]

<211> 281

<213> Homo Sapien

Met Gly Ser Arg Gly Gln Gly Leu Leu Leu Ala Tyr Cys Leu Leu
1 5 10 15

Gln Gly Glu Gln Gln Glu Trp Glu Gly Thr Glu Glu Leu Pro Ser
35 40 45

Arg Pro Ser Gln Asp Gln Gly Leu Pro Ala Ser Arg Cys Leu Arg
65 70 75

Gln Ile Asn Ile Thr Ile Leu Lys Gly Glu Lys Gly Asp Arg Gly
95 100 105

58

				110					115					120	
Ala	Arg	Gly	His	Thr 125	Gly	Pro	Lys	Gly	Gln 130	Lys	Gly	Ser	Met	Gly 135	
Ala	Pro	Gly	Glu	Arg 140	Cys	Lys	Ser	His	Tyr 145	Ala	Ala	Phe	Ser	Val 150	
Gly	Arg	Lys	Lys	Pro 155	Met	His	Ser	Asn	His 160	Tyr	Tyr	Gln	Thr	Val 165	
Ile	Phe	Asp	Thr	Glu 170	Phe	Val	Asn	Leu	Tyr 175	Asp	His	Phe	Asn	Met 180	
Phe	Thr	Gly	Lys	Phe 185	Tyr	Cys	Tyr	Val	Pro 190	Gly	Leu	Tyr	Phe	Phe 195	
Ser	Leu	Asn	Val	His 200	Thr	Trp	Asn	Gln	Lys 205	Glu	Thr	Tyr	Leu	His 210	
Ile	Met	Lys	Asn	Glu 215	Glu	Glu	Val	Val	Ile 220	Leu	Phe	Ala	Gln	Val 225	
Gly	Asp	Arg	Ser	Ile 230	Met	Gln	Ser	Gln	Ser 235	Leu	Met	Leu	Glu	Leu 240	
Arg	Glu	Gln	Asp	Gln 245	Val	Trp	Val	Arg	Leu 250	Tyr	Lys	Gly	Glu	Arg 255	
Glu	Asn	Ala	Ile	Phe 260	Ser	Glu	Glu	Leu	Asp 265	Thr	Tyr	Ile	Thr	Phe 270	
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<210> 79

<212> DNA

<220>

<400> 79

<210> 80

<212> DNA

<220>

<400> 80

<210> 81

<211> 45
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

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<210> 82
<211> 2284
<212> DNA
<213> Homo Sapien

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ggcgccgggg tctctcgcac gccagagaga aatctcatca tctgtgcagc 150
cttcttaaag caaactaaga ccagagggag gattatcctt gacctttgaa 200
gacaaaaact aaactgaaat ttaaaatgtt cttcggggga gaaggagct 250
tgacttacac tttggtaata atttgcttcc tgacactaag gctgtctgct 300
agtcagaatt gcctcaaaaa gagtctagaa gatgttgta ttgacatcca 350
gtcatctctt tctaaggga tcaaggcaa tgagcccgta tatacttcaa 400
ctcaagaaga ctgcattaat tcttgctgtt caacaaaaaa catatcaggg 450
gacaaagcat gtaacttgat gatcttcgac actcgaaaaa cagctagaca 500
acceactgc tacctatctt tctgtcccaa cgaggaagcc tgtccattga 550
aaccagcaaa aggacttatg agttacagga taattacaga tttccatct 600
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cccaaagtgc	tgggattaca	ggcatgagcc	accacagctg	gcccccttct	1950
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attttgggtg	atctgtctct	aaaatattag	ctaaaaacaa	agctctatgt	2050
aaagtaataa	agtataattg	ccatataaat	ttcaaaattc	aactggcttt	2100
tatgcaaaga	aacagggttag	gacatctagg	ttccaattca	ttcacattct	2150
tggttccaga	taaaatcaac	tgtttatatc	aatttcta	ggatttgctt	2200
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<210> 83

<212> PRT

<213> Homo Sapien

<400> 83

1 5 10 15

5

10

15

09943780-033001

Ile Cys Phe Leu Thr	Leu Arg Leu Ser Ala	Ser Gln Asn Cys Leu
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Lys Lys Ser Leu Glu Asp Val Val	Ile Asp Ile Gln Ser Ser Leu	
35	40	45
Ser Lys Gly Ile Arg Gly Asn Glu Pro Val Tyr Thr Ser Thr Gln		
50	55	60
Glu Asp Cys Ile Asn Ser Cys Cys Ser Thr Lys Asn Ile Ser Gly		
65	70	75
Asp Lys Ala Cys Asn Leu Met Ile Phe Asp Thr Arg Lys Thr Ala		
80	85	90
Arg Gln Pro Asn Cys Tyr Leu Phe Phe Cys Pro Asn Glu Glu Ala		
95	100	105
Cys Pro Leu Lys Pro Ala Lys Gly Leu Met Ser Tyr Arg Ile Ile		
110	115	120
Thr Asp Phe Pro Ser Leu Thr Arg Asn Leu Pro Ser Gln Glu Leu		
125	130	135
Pro Gln Glu Asp Ser Leu Leu His Gly Gln Phe Ser Gln Ala Val		
140	145	150
Thr Pro Leu Ala His His His Thr Asp Tyr Ser Lys Pro Thr Asp		
155	160	165
Ile Ser Trp Arg Asp Thr Leu Ser Gln Lys Phe Gly Ser Ser Asp		
170	175	180
His Leu Glu Lys Leu Phe Lys Met Asp Glu Ala Ser Ala Gln Leu		
185	190	195
Leu Ala Tyr Lys Glu Lys Gly His Ser Gln Ser Ser Gln Phe Ser		
200	205	210
Ser Asp Gln Glu Ile Ala His Leu Leu Pro Glu Asn Val Ser Ala		
215	220	225
Leu Pro Ala Thr Val Ala Val Ala Ser Pro His Thr Thr Ser Ala		
230	235	240
Thr Pro Lys Pro Ala Thr Leu Leu Pro Thr Asn Ala Ser Val Thr		
245	250	255
Pro Ser Gly Thr Ser Gln Pro Gln Leu Ala Thr Thr Ala Pro Pro		
260	265	270
Val Thr Thr Val Thr Ser Gln Pro Pro Thr Thr Leu Ile Ser Thr		
275	280	285
Val Phe Thr Arg Ala Ala Ala Thr Leu Gln Ala Met Ala Thr Thr		
290	295	300
Ala Val Leu Thr Thr Thr Phe Gln Ala Pro Thr Asp Ser Lys Gly		

305	310	315
Ser Leu Glu Thr Ile Pro Phe Thr Glu	Ile Ser Asn Leu Thr	Leu
320	325	330
Asn Thr Gly Asn Val Tyr Asn Pro Thr	Ala Leu Ser Met Ser	Asn
335	340	345
Val Glu Ser Ser Thr Met Asn Lys Thr	Ala Ser Trp Glu Gly	Arg
350	355	360
Glu Ala Ser Pro Gly Ser Ser Ser Gln	Gly Ser Val Pro Glu	Asn
365	370	375
Gln Tyr Gly Leu Pro Phe Glu Lys Trp	Leu Leu Ile Gly Ser	Leu
380	385	390
Leu Phe Gly Val Leu Phe Leu Val Ile	Gly Leu Val Leu Leu	Gly
395	400	405
Arg Ile Leu Ser Glu Ser Leu Arg Arg	Lys Arg Tyr Ser Arg	Leu
410	415	420
Asp Tyr Leu Ile Asn Gly Ile Tyr Val	Asp Ile	
425	430	

<210> 84
 <211> 30
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Synthetic oligonucleotide probe

 <400> 84
 agggaggatt atccttgacc tttgaagacc 30

 <210> 85
 <211> 18
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Synthetic oligonucleotide probe

 <400> 85
 gaagcaagtg cccagctc 18

 <210> 86
 <211> 18
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Synthetic oligonucleotide probe

 <400> 86
 cgggtccctg ctctttgg 18

<210> 87
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 87
caccgtagct gggagcgcac tcac 24

<210> 88
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 88
agtgttaagtc aagctccc 18

<210> 89
<211> 49
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 89
gcttcctgac actaaggctg tctgctagtc agaattgcct caaaaagag 49

<210> 90
<211> 957
<212> DNA
<213> Homo Sapien

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cattccagat gcacccctgt ccagtgtgc ctatagcatc cgcagcatcg 150
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agggtggcaga agcaagtacg ccaaaatctg ctttgaggat aacctactta 300
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aggcgataac tctggaccga tgacaaagtt tattcagagt gctgctccaa 450
aatccctgct cttcatgggtg acctatgacg acggaagcac aagactgaat 500

aacgatgccca agaatgccat agaagcactt ggaagtaaag aaatcaggaa 550
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 gcccatatth gatgagtatt ttgggtttgt tgtaaaccac tgaacatttg 850
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 aaaaaaa 957

<210> 91
 <211> 235
 <212> PRT
 <213> Homo Sapien

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 Phe Ala Ser Leu Cys Ala Trp Tyr Ser Gly Tyr Leu Leu Ala Glu
 20 25 30
 Leu Ile Pro Asp Ala Pro Leu Ser Ser Ala Ala Tyr Ser Ile Arg
 35 40 45
 Ser Ile Gly Glu Arg Pro Val Leu Lys Ala Pro Val Pro Lys Arg
 50 55 60
 Gln Lys Cys Asp His Trp Thr Pro Cys Pro Ser Asp Thr Tyr Ala
 65 70 75
 Tyr Arg Leu Leu Ser Gly Gly Gly Arg Ser Lys Tyr Ala Lys Ile
 80 85 90
 Cys Phe Glu Asp Asn Leu Leu Met Gly Glu Gln Leu Gly Asn Val
 95 100 105
 Ala Arg Gly Ile Asn Ile Ala Ile Val Asn Tyr Val Thr Gly Asn
 110 115 120
 Val Thr Ala Thr Arg Cys Phe Asp Met Tyr Glu Gly Asp Asn Ser
 125 130 135
 Gly Pro Met Thr Lys Phe Ile Gln Ser Ala Ala Pro Lys Ser Leu
 140 145 150
 Leu Phe Met Val Thr Tyr Asp Asp Gly Ser Thr Arg Leu Asn Asn
 155 160 165

Asp Ala Lys Asn Ala Ile Glu Ala Leu Gly Ser Lys Glu Ile Arg
170 175 180

Asn Met Lys Phe Arg Ser Ser Trp Val Phe Ile Ala Ala Lys Gly
185 190 195

Leu Glu Leu Pro Ser Glu Ile Gln Arg Glu Lys Ile Asn His Ser
200 205 210

Asp Ala Lys Asn Asn Arg Tyr Ser Gly Trp Pro Ala Glu Ile Gln
215 220 225

Ile Glu Gly Cys Ile Pro Lys Glu Arg Ser
230 235

<210> 92

<211> 20

<212> DNA

<213> Artificial Sequence

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<223> Synthetic oligonucleotide probe

<400> 92

aatgtgacca ctggactccc 20

<210> 93

<211> 18

<212> DNA

<213> Artificial Sequence

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<223> Synthetic oligonucleotide probe

<400> 93

aggcttgga ctcccttc 18

<210> 94

<211> 24

<212> DNA

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<223> Synthetic oligonucleotide probe

<400> 94

aagattcttg agcgattcca gctg 24

<210> 95

<211> 47

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 95

aatccctgct cttcatggtg acctatgacg acggaagcac aagactg 47

<210> 96
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
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<400> 96
ctcaagaagc acgcgtactg c 21

<210> 97
<211> 25
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<400> 97
ccaacctcag cttccgcctc tacga 25

<210> 98
<211> 18
<212> DNA
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<220>
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<400> 98
catccaggct cgccactg 18

<210> 99
<211> 20
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<400> 99
tggcaaggaa tgggaacagt 20

<210> 100
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 100
atgctgccag acctgatcgc agaca 25

<210> 101
<211> 19
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<213> Artificial Sequence

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<223> Synthetic oligonucleotide probe

<400> 101

gggcagaaat ccagccact 19

<210> 102

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<212> DNA

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<223> Synthetic oligonucleotide probe

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<210> 104

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<210> 105

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 105

cctcggtctc ctcactgtg a 21

<210> 106

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 106

tggcccagct gacgagccct 20

<210> 107

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

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<210> 108

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 108

tggtcccag cttggaaga 19

<210> 109

<211> 30

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 109

cagctcttgg ctgtctccag tatgtaccca 30

<210> 110

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 110

gatgcctctg ttctgcaca t 21

<210> 111

<211> 48

<212> DNA

<213> Artificial Sequence

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<400> 111

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<210> 112

<211> 48

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 112

ctatgaaatt aaccctcact aaagggaccg cagctgggtg accgtgta 48

<210> 113

<211> 43

<212> DNA

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<223> Synthetic oligonucleotide probe

<400> 113

ggattctaatt acgactcact atagggccgc ccgccaacct cct 43

<210> 114

<211> 48

<212> DNA

<213> Artificial Sequence

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<400> 114

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<210> 115

<211> 48

<212> DNA

<213> Artificial Sequence

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<400> 115

ggattctaatt acgactcact atagggccca aggaaggcag gagactct 48

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<212> DNA

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<223> Synthetic Oligonucleotide probe

<400> 116

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<210> 117

<211> 48
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 <400> 117
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 <212> DNA
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 <210> 119
 <211> 48
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 <400> 119
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 <210> 120
 <211> 47
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Synthetic oligonucleotide probe

 <400> 120
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